

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

REARDEN LLC, et al.,
Plaintiffs,

v.

THE WALT DISNEY COMPANY, et al.,
Defendants.

Case No. 17-cv-04006-JST

Re: ECF Nos. 282, 292

REARDEN LLC, et al.,
Plaintiffs,

v.

TWENTIETH CENTURY FOX FILM
CORPORATION, et al.,
Defendants.

Case No. 17-cv-04191-JST

Re: ECF Nos. 240, 250

**ORDER GRANTING IN PART AND
DENYING IN PART MOTION TO
STRIKE EXPERT REPORT**

Before the Court are Defendants' motion to strike portions of the declaration of Angela Tinwell, ECF No. 282,¹ and Plaintiffs' motion to strike a footnote in Defendants' reply brief, ECF No. 292. The Court will grant Defendants' motion in part and deny it in part, and will deny Plaintiffs' motion as moot.

I. BACKGROUND

Plaintiffs Rearden LLC and Rearden Mova LLC ("Rearden") bring these actions against Defendants The Walt Disney Company, Walt Disney Motion Pictures Group, Inc., Buena Vista Home Entertainment, Inc., Marvel Studios, LLC, Mandeville Films, Inc., Twentieth Century Fox

¹ In this order, the Court uses the docket numbers from *Rearden v. The Walt Disney Co.*, Case No. 17-cv-04006. Identical copies of the declarations, briefs, and other related materials have been filed on the docket in *Rearden v. Twentieth Century Fox Film Corp.*, Case No. 17-cv-04191.

1 Film Corp., and Twentieth Century Fox Home Entertainment LLC (“Defendants”) for vicarious
2 and contributory copyright infringement. Plaintiffs seek to recover the portion of Defendants’
3 film profits attributable to the alleged infringement of Rearden’s copyright, among other remedies.
4 First Amended Complaint (“FAC”), ECF No. 63; *see also* Case No. 17-cv-04191, ECF No. 41.

5 The case centers on Rearden’s MOVA Contour Reality Capture Program (“MOVA
6 Contour” or “MOVA”), which is a program for capturing the motion of the human face to create
7 images used in motion pictures. *See Shenzhenshi Haitiecheng Science and Technology Co., Ltd.,*
8 *et al. v. Rearden LLC, et al.*, No. 15-cv-00797 JST, ECF No. 427 at 18 (N.D. Cal. Aug. 11, 2017).
9 MOVA Contour “precisely captures and tracks the 3D shape and motion of a human face to sub-
10 millimeter precision.” FAC ¶ 22. It “capture[s] an actor’s performance frame-by-frame,” and
11 then creates “original Contour Program output files” based on the performance. *Id.* ¶ 27. These
12 files have various applications, such as “retargeting” the actor’s face onto another real or fictional
13 face. *Id.* ¶ 36.

14 Rearden alleges that Defendants used MOVA Contour in major motion picture films
15 including *Beauty and the Beast*. *Id.* ¶¶ 2-4. Rearden states that Defendants had a “financial
16 interest in exploit[ing] Rearden’s copyright” because they believed MOVA Contour would make
17 movie characters “more believable and compelling, which would in turn draw a wider audience to
18 the films.” *Id.* ¶ 138.

19 By separate motion, Defendants have sought summary judgment that Rearden may not
20 obtain as damages any portion of the Defendants’ profits from the at-issue motion pictures “on the
21 ground that Rearden as a matter of law cannot establish a causal nexus between the alleged
22 copyright infringement and those profits.” ECF No. 249 at 2. Defendants argue that Rearden’s
23 claim for damages based on film profits requires proof that the alleged infringement “drove
24 consumers’ purchasing decisions” to see the motion pictures in question. *Id.* at 22. Defendants
25 contend that Rearden lacks such proof and that the alleged causal relationship, if any, is so
26 attenuated there can be no nexus as a matter of law. *Id.* at 21-22. Rearden’s opposition to the
27 summary judgment motion relies in part on the declaration of expert witness Angela Tinwell,
28 Ph.D., who offers testimony that (1) the nuances in the Beast’s face produced with MOVA

software were responsible for evoking positive sentiments in viewers, and (2) there is a causal link between the use of MOVA's facial motion capture technology and the profitability of the films using that technology. Declaration ("Tinwell Decl."), ECF No. 264-16 ¶ 10. Tinwell opines that MOVA software is responsible for at least some of *Beauty and the Beast*'s revenues. *Id.*

Defendants now move to strike portions of Dr. Tinwell's declaration. ECF No. 282. Rearden has filed an opposition to the motion to strike, ECF No. 286, and Defendants have replied, ECF No. 291. Rearden has also filed a separate motion asking the Court to strike footnote 11 from Defendants' reply brief. ECF No. 292. Defendants have filed an opposition to that motion, ECF No. 293, to which Rearden has replied, ECF No. 294.

II. JURISDICTION

This Court has subject matter jurisdiction pursuant to 28 U.S.C. § 1331.

III. LEGAL STANDARD

Federal Rule of Evidence 702 provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.

Trial courts serve a "gatekeeping" role "to ensure the reliability and relevancy of expert testimony." *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 152 (1999). "*Kumho Tire* heavily emphasizes that judges are entitled to broad discretion when discharging their gatekeeping function." *Hangarter v. Provident Life & Acc. Ins. Co.*, 373 F.3d 998, 1017 (9th Cir. 2004). A trial court has broad latitude in "determining whether an expert's testimony is reliable" and "deciding how to determine the testimony's reliability." *Id.*

Rule 702 should be applied with a "liberal thrust" favoring admission, but it requires that "[e]xpert testimony . . . be both relevant and reliable." *Messick v. Novartis Pharm. Corp.*, 747 F.3d 1193, 1196 (9th Cir. 2014) (citation omitted). If the expert fails to "employ[] in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the

relevant field,” her testimony must be excluded. *Kumho*, 526 U.S. at 152.

Trial courts should “not exclude opinions merely because they are impeachable.” *City of Pomona v. SQM North America Corp.*, 750 F.3d 1036, 1044 (9th Cir. 2014) (citation omitted). “Shaky but admissible evidence is to be attacked by cross examination, contrary evidence, and attention to the burden of proof, not exclusion.” *Primiano v. Cook*, 598 F.3d 558, 564 (9th Cir. 2010). The proponent of the expert testimony has the burden of proving admissibility. *Lust By & Through Lust v. Merrell Dow Pharms., Inc.*, 89 F.3d 594, 598 (9th Cir. 1996).

IV. DISCUSSION

Dr. Angela Tinwell holds a Ph.D. in the field of human-computer interaction, with expertise in viewer perception of facial expression in human-like virtual characters in games and animation. Tinwell Decl. ¶ 4; *see also* ECF No. 264-17. Based on her research, Tinwell opines that a perceived lack of empathy in a virtual character in certain contexts may evoke a “negative (‘uncanny’) response in a viewer and repulsion toward that character” despite the character’s intended positive or negative role. Tinwell Decl. ¶ 4. Tinwell declares that her research shows that viewers are likely to regard a human-like virtual character as uncanny if there are perceived flaws in that character’s facial expression. *Id.*²

The opinions regarding MOVA expressed in Tinwell’s declaration fall into three categories. The first category states that a computer-generated (“CG”) character’s nuanced expressions can affect viewers’ feelings towards a film. Tinwell Decl. ¶¶ 10, 43, 48, 49, 59, 60, 62. The second category states that MOVA is or was a significant factor in producing Defendants’ CG characters’ nuanced expressions. *Id.* ¶¶ 10, 80, 86-101. As to these opinions, Tinwell attributes several films’ financial success to MOVA’s efficiency, affordability, and technological development. *Id.* Finally, the third category states that a causal connection exists between a film’s use of MOVA and the film’s profitability. *Id.* ¶¶ 10, 59-63. Tinwell bases these opinions on a comparative study she conducted for purposes of this litigation. *Id.* Defendants move to

² *See also* Tinwell Decl. ¶ 19 (defining “uncanny” in this context as “containing subtle flaws in . . . appearance and behavior that deviate from the human norm” which “abnormalities . . . evoke a negative response in the viewer to the extent of fear and repulsion.”).

1 strike portions of these opinions.³

2 **A. Category I: Viewers' Reaction to Nuances Produced Using MOVA**

3 The first category of Tinwell's challenged opinions addresses "how viewers would have
4 perceived the Beast's facial expression based upon her research, human experiments, and peer-
5 reviewed publications." ECF No. 286 at 16; *see also* Tinwell Decl. ¶¶ 10, 43, 48, 49, 59, 60, 62.
6 For this category, Tinwell assumes that Defendants used the MOVA technology to produce the
7 nuanced expressions observed in animated characters. ECF No. 286 at 16. Defendants concede
8 that Tinwell is qualified to explain how "non-verbal facial expressions" allow CG characters to
9 "communicate human emotion," but they argue that she cannot treat the use of MOVA in a
10 particular film as a fact because she lacks both the evidentiary foundation and the expert
11 qualification necessary to make that assessment. ECF No. 282 at 10. Rearden responds that
12 Defendants misrepresent Tinwell's statements because she is not claiming to have technical
13 knowledge of MOVA. ECF No. 286 at 13. Rather, Tinwell's declaration relies on the record for
14 the assumption that MOVA was used in *Beauty and the Beast*. *Id.* at 15. Rearden also points out
15 that Defendants do not dispute that MOVA was used to develop the Beast's nuanced expressions.
16 *Id.*

17 The Court finds the first category of statements – Tinwell's discussion generally about
18 MOVA's role in producing the nuanced characteristics – are admissible. For example, Tinwell
19 states that "MOVA Contour technology enabled the presentation of a human-like CG Beast
20 character that viewers could believe in, empathize with, and believe that Belle could plausibly
21 romantically love." Tinwell Decl. ¶ 10. This statement, and those like it, focus on the link
22 between animated characters' facial expressions and the effect on viewers. This category does not
23 offer technical descriptions of MOVA and therefore does not require foundation or expertise of

24
25 ³ Rearden filed a motion to strike footnote 11 from Defendants' reply brief, arguing that it
26 constitutes an impermissible new argument concerning certain paragraphs in Tinwell's
27 declaration. ECF No. 292. Rearden complains that although Defendants identified the disputed
28 paragraphs in their original brief, they did not tie them to the specific arguments in that brief and
only made the necessary associations in reply. *Id.* The Court performed its own evaluation of all
the highlighted paragraphs of Tinwell's declaration without relying on footnote 11, and would
have done so regardless of whether that footnote had been included in Defendants' reply.
Rearden's motion to strike is therefore denied as moot.

MOVA's technical features. Defendants' motion to exclude as to these statements is denied.

B. Category II: MOVA's Production of Human Emotion in the Beast

The second category of challenged opinions state that MOVA played a significant role in producing the Beast's nuanced expressions. Tinwell Decl. ¶¶ 10, 80, 86-88, 93-96, 101. Unlike the statements in the first category, here Tinwell makes specific assertions that MOVA is responsible for nuances in the appearance of the Beast's face. *Id.* She explains that it was necessary to capture the "full range of facial expressions" in order to present the complex emotions of the Beast. *See, e.g., id.* ¶ 93 ("These more complex expressions of emotions that the viewer can perceive in the Beast would not have been possible without capturing the full range of facial expressions that Dan Stevens performed in his MOVA facial performance capture that were retargeted onto the animated Beast."). Tinwell supports these assertions with an explanation that MOVA revolutionized the development of CG characters by making it possible and practical to capture all of the actor's "subtle, nuanced expression" and retarget them to the faces of CG characters like the Beast. *Id.* ¶ 70. Defendants ask the Court to strike this category of statements. ECF No. 282. Specifically, they challenge Tinwell's (1) qualifications and (2) foundation to assert "that MOVA is responsible for human emotion in the Beast's face." *Id.* at 9, 12.

1. Expert Qualifications

Defendants argue Tinwell is not qualified to provide testimony regarding MOVA's capabilities or its contribution to the Beast character in *Beauty and the Beast*. *Id.* Defendants point out that Tinwell conceded that she is not an expert on MOVA or similar technologies; she has not learned the capabilities of MOVA; she does not know what role the software plays in developing a CG character; she has not worked on MOVA technology specifically, either academically or professionally; she cannot identify by name other facial motion capture technologies beside MOVA; and she cannot identify when MOVA is being used in a film. *Id.* at 10.

Rearden responds that Tinwell's qualifications are sufficient to support her statements that producing nuanced facial expressions in CG characters has become "both possible and practical for film-makers for the first time" in part due to MOVA. ECF No. 286 at 12-13 (quoting Tinwell

Decl. ¶ 10). Rearden also argues that some of the challenged statements do not require expert qualification because Tinwell is merely agreeing with Dr. Hao Li, the Defendants’ own MOVA Contour expert. *Id.* Tinwell reviewed Li’s testimony and agreed that capturing the subtleties and nuances of a performer’s facial expression requires high resolution technologies in order to avoid the risk of the uncanny response from viewers. Tinwell Decl. ¶ 106. Finally, Rearden argues that Tinwell has experience with research, publication, teaching, advising animators and special effects artist, and consulting – work which requires an understanding of the process of using facial performance capture technologies in CG character animation. EDC No. 286 at 7. Accordingly, while Rearden concedes that Tinwell is not an expert in MOVA, it argues that she has a sufficient understanding of facial motion capture procedure, including MOVA Contour. *Id.*

Rule 702 “contemplates a *broad conception* of expert qualifications.” *Thomas v. Newton Int’l Enters.*, 42 F.3d 1266, 1269 (9th Cir. 1994) (emphasis added). Moreover, “the advisory committee notes emphasize that Rule 702 is broadly phrased and intended to embrace more than a narrow definition of qualified expert.” *Hangerter*, 373 F.3d at 1015. The Ninth Circuit has placed great emphasis on *Daubert*’s admonition that a district court should conduct the analysis “with a ‘liberal thrust’ favoring admission.” *Messick*, 747 F.3d at 1196 (citing *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 588 (1993)). “Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Daubert*, 509 U.S. at 596. Lack of particularized expertise goes to the weight to be accorded the expert’s testimony, not the admissibility of her opinion as an expert. *United States v. Garcia*, 7 F.3d 885, 890 (9th Cir. 1993); *see also Ramirez v. ITW Food Equip. Grp., LLC*, 686 Fed. Appx. 435, 441 (9th Cir. 2017) (holding that the district court erred by excluding expert testimony due to lack of particularized expertise).

With a few exceptions, the Court finds that Tinwell’s testimony attributing the Beast’s human-like face to MOVA is generally admissible.⁴ Challenges to the testimony based on

⁴ Several of Tinwell’s opinions regarding MOVA’s technical aspects – such as procedures, capabilities, and limitations – are beyond her expertise and will be stricken. For instance, the

Tinwell's inability to identify the degree to which MOVA was used in the film or how it operates may be useful to impeach her testimony, but are not grounds exclude it. *See* ECF No. 282 at 10-11. Tinwell does not have specific expertise in MOVA, but she has sufficient knowledge to state that MOVA contributed to the character's human-like characteristics generally. The Court will not "exclude opinions merely because they are impeachable." *Alaska Rent-A-Car, Inc. v. Avis Budget Grp., Inc.*, 738 F.3d 960, 969-70 (9th Cir. 2013). Accordingly, Defendants may use these arguments to challenge Tinwell's testimony on cross-examination, but they are not sufficient to exclude it. The Court concludes that Tinwell's testimony under this category falls largely within her expertise and will be admissible as detailed in Exhibit A to this order.

2. Foundation and "Fit"

Defendants also argue that Dr. Tinwell's opinion that MOVA technology enabled the presentation of a human-like CG Beast character and was used for "close-up shots" lacks foundation and "fit." ECF No. 282 at 12-13. They claim that her opinion is not based on sufficient facts or data and instead relies on speculation. *Id.* Defendants first point to Tinwell's inadequate investigation into MOVA's role in *Beauty and the Beast*, since Tinwell testified to viewing only a short video depicting a scene showing the development of the Beast's face. *Id.* Defendants argue that reviewing a short clip of one shot provides no basis upon which to opine how MOVA was used in the film as a whole or in the Beast's appearance. *Id.* Further, Defendants argue that Tinwell's opinion lacks foundation because she failed to review any evidence produced by Defendants or speak with anyone who worked on *Beauty and the Beast*. *Id.*

Rearden responds that Tinwell's declaration does not offer any opinions on how Defendants used MOVA or how Defendants created the Beast's face. ECF No. 286 at 15. Instead, Rearden argues that Tinwell focuses on how viewers were likely to have perceived the Beast's facial expression based upon her research, human experiments, and peer-reviewed

testimony that "[r]ather than a resolution of just a few points on a face, MOVA could capture thousands of points of reference to provide millions of polygons for animators to work with," Tinwell Decl. ¶ 69, is inadmissible because Tinwell lacks the expertise to make this technical statement. If that fact is separately established in the record, however, she may rely on it where relevant.

1 publications. *Id.* Rearden also argues that Tinwell is not required to have technical knowledge of
2 MOVA to assert MOVA was responsible for human-like features in the Beast. ECF No. 286 at
3 16.

4 Under Rule 702, admissible expert testimony must be based on sufficient facts or data.
5 Fed. R. Civ. P. 702(b). Expert testimony is properly excluded where it relies on assumptions that
6 are not sufficiently founded on facts. *Guidroz-Brault v. Mo. Pac. R.R. Co.*, 254 F.3d 825, 830-31
7 (9th Cir. 2001).

8 Here, the Court finds Dr. Tinwell's statement is supported by an adequate factual
9 foundation. Tinwell's research, upon which she bases her opinions, was conducted prior to the
10 advent of this case and has been published in books and academic journals, including ten peer-
11 reviewed papers. Tinwell Decl. ¶ 2. Tinwell's statements about Defendants' use of MOVA in
12 *Beauty and the Beast* was informed by the testimony of Defendants' witness, whose opinions
13 about the capabilities of motion capture technologies including MOVA confirm Tinwell's own
14 opinions. *Id.* ¶¶ 6, 104-107, 110. Tinwell does not offer any opinions on how Defendants used
15 MOVA specifically, or how the Beast's face was created.

16 This testimony also satisfies the "fit" requirement under *Daubert* because Tinwell is
17 testifying about the causal nexus between the human-like images produced by MOVA and the
18 impact on the viewer. The "fit" question is one of relevance. *Daubert*, 509 U.S. at 591. In other
19 words, in determining whether expert testimony satisfies the "fit" requirement, the court must
20 determine whether that "reasoning or methodology properly can be applied to the facts in issue."
21 *Id.* at 592-93. In *Messick*, the Ninth Circuit explained that "[r]elevancy depends on the particular
22 law at issue because 'expert opinion testimony is relevant if the knowledge underlying it has a
23 valid connection to the pertinent inquiry.'" *Messick*, 747 F.3d at 1196-97 (citation omitted).
24 There the court authorized the admission of a study suggesting a causal nexus between defendant's
25 conduct and plaintiff's injury. *Id.* This study met the "fit" requirement because California state
26 products liability law required that a plaintiff show that the defendant's conduct was "more likely
27 than not" a substantial factor in causing the injury in order to prove specific causation. *Id.*; see also
28 *Galinis v. Bayer Corp.*, No. 09-cv-04980-SI, 2019 WL 2716480, at *5 (N.D. Cal. June 28, 2019)

(admitting testimony on studies relevant to the question of causation in a products liability case). Similarly here, the Court finds that Dr. Tinwell's testimony and expertise is focused on the causal nexus between the use of MOVA's motion capture technology, viewer perception of a CG character, and the effect on viewers. ECF No. 286 at 10. The Court finds that this testimony satisfies the "fit" element under *Daubert*. Therefore, the Court denies Defendants' motion to strike Tinwell's opinions about MOVA's production of human-like emotion on the basis of foundation or fit.

C. Category III: Causal Connection Between MOVA and Revenues

Tinwell declares that there is a causal link between viewers' positive responses to the nuanced facial expressions created through MOVA technology and a film's profitability. Tinwell Decl. ¶¶ 10, 59-63. Defendants argue that her opinions in this regard are based on an unreliable comparative study that does not meet *Daubert*'s requirements. ECF No. 282 at 15.

Unlike the second category of opinions, which were based on Tinwell's research and studies prior to the case at bar, the third category of opinions rely on data from a study that Tinwell conducted specifically for this case. Tinwell Decl. ¶¶ 59-62. In her study, Tinwell examined four films that used early facial motion capture technologies and also performed poorly at the box office. *Id.* Her study identified a correlation between the four movies' uncanny human-like characters and their lack of profitability, namely that "comparison of estimated budgets and gross film takings suggests there is a negative financial impact of uncanny human-like virtual characters in feature films." *Id.* ¶ 59. Dr. Tinwell then goes on to conclude that "a causal effect can be identified between facial motion-capture technology, unpopular, uncanny humanlike characters, audience acceptance, and a film's profitability." *Id.* ¶ 63 (emphasis added).

Defendants argue that Tinwell's declaration suggesting a causal relationship between MOVA and a film's financial success is not based on reliable principles or methods that satisfy *Daubert*. ECF No. 282 at 14-15. They contend that Tinwell simply selected four movies (1) that used early facial motion capture technology, (2) whose CG characters were described by movie critics as uncanny, and (3) that were financially unsuccessful. *Id.* at 15. This, Defendants argue, is insufficient to support an opinion of causation. *Id.* They argue that Tinwell ignored critical data

that disproved her hypothesis and searched only for evidence that supported the conclusion she sought to prove. *Id.* at 19-20. Finally, Defendants argue that Tinwell’s causation opinion should be excluded for the independent reason that it conflates correlation with causation. *Id.* at 20.

Rearden responds that Tinwell’s purported failure to consider enough data, or contradictory data, are matters for cross-examination. ECF No. 286 at 22. Rearden also contends that Defendants mischaracterize Tinwell’s declaration, which addresses “whether the infringement *at least partially* caused the profits,” *id.* at 18 (quoting *Mackie v. Rieser*, 296 F.3d 909, 911 (9th Cir. 2002)); Tinwell does not claim that MOVA was the sole factor in any film’s profitability, *id.* Rearden argues that a sample size of four films should not be disqualifying given the limited number of feature films from the last two decades with uncanny human-like characters. *Id.* at 21-22. Finally, Rearden states that while correlation does not prove causation, it is some evidence of causation. *Id.* at 23.

As to this category, the Court agrees with Defendants that Tinwell’s testimony regarding the causal nexus between MOVA and *Beauty and the Beast* profits is scientifically unreliable and does not satisfy *Daubert*.

1. Sample Size

The first deficiency in Tinwell’s study is her small sample size. She relied on a total of four movies from the last two decades to form her opinion. Tinwell Decl. ¶¶ 42-57. While the record does not contain the total number of CG character movies from the last two decades, certainly the number exceeds four. Indeed, Tinwell conceded at deposition that she omitted at least one film, *The Polar Express*, which she herself discussed in her 2014 book, *The Uncanny Valley in Games and Animation*. ECF No. 282 at 16. No reliable conclusion about causation or correlation can be drawn from such a small sample. *In re Wells Fargo & Co. Shareholder Derivative Litig.*, 445 F. Supp. 3d 508, 529 (N.D. Cal. 2020) (four instances of billing over 17 years could not establish the market rate for contract attorneys because “it is not possible to draw meaningful conclusions from such a small sample size.”); *Chen-Oster v. Goldman, Sachs & Co.*, 325 F.R.D. 55, 69 (S.D.N.Y. 2018) (affirming exclusion of statistical studies because “sample size of only 2 pairs . . . could not be statistically significant”); *Ellis v. Costco Wholesale Corp.*, 285

1 F.R.D. 492, 522-23 & n.25 (N.D. Cal. 2012) (relatively small sample size likely not to yield
 2 statistically significant results); *cf.* Daniel Rubinfeld, *Reference Guide on Multiple Regression*, in
 3 Reference Manual on Scientific Evidence, 318 (3d ed. 2011) (“As a general rule, the statistical
 4 significance of the magnitude of a regression coefficient increases as the sample size increases.
 5 Thus, a \$1.00 per hour wage differential between men and women that was determined to be
 6 insignificantly different from zero with a sample of 20 men and women could be highly significant
 7 if the sample size were increased to 200.”).

8 **2. Biased Sample**

9 Tinwell’s study also suffered from a biased sample. In her deposition, Tinwell
 10 acknowledged the commonsense tenet of scientific research that a researcher may not focus only
 11 on the data that supports the hypothesis and ignore the data that undermines it. ECF No. 282-3 at
 12 60. But in her study for this case, Tinwell selected movies that she believed supported the
 13 conclusion she wanted to reach. *Id.* at 64-69, 73-74 (explaining that she conducted an online
 14 search “of the film title and then uncanny,” and did nothing to search for positive movie reviews).
 15 At deposition, she candidly acknowledged that the reason that she omitted *The Polar Express* was
 16 that “other films . . . had done worse,” *id.* at 82 – *i.e.*, because *The Polar Express* did not support
 17 her hypothesis.

18 The Court finds that Tinwell’s biased selection process fails to satisfy *Daubert* and renders
 19 her testimony inadmissible. *See In re Bextra & Celebrex Mktg. Sales Pracs. & Prod. Liab. Litig.*,
 20 524 F. Supp. 2d 1166, 1176, 1184 (N.D. Cal. 2007) (excluding testimony of expert who “cherry-
 21 pick[ed] observational studies that support his conclusion and reject[ed] or ignor[ed] the great
 22 weight of the evidence that contradicts his conclusions”).

23 **3. Correlation v. Causation**

24 Finally, the Court finds that Tinwell’s opinion erroneously conflates correlation with
 25 causation. *See Rambus Inc. v. Hynix Semiconductor Inc.*, 254 F.R.D. 597 (N.D. Cal. 2008). In
 26 *Rambus*, the court summarized plaintiff’s expert witness’s testimony as follows: “the
 27 [defendants’] products incorporate Rambus’s claimed inventions; those products have been
 28 successful; *ergo* Rambus’s inventions caused the products’ success.” *Id.* at 605. The court

1 excluded the testimony, finding that the expert’s confusion between correlation and causation
 2 “provides an independent basis for preventing Mr. Murphy from testifying to the non-technical
 3 aspects of the commercial success inquiry.” *Id.*; see also *Spellbound Dev. Grp., Inc. v. Pac.*
 4 *Handy Cutter Inc.*, No. SACV 09-0951 DOC, 2012 WL 8748801, at *1 (C.D. Cal. Feb. 24, 2012)
 5 (excluding expert opinion that defendants’ infringement caused the plaintiff to lower its prices
 6 because the opinion was based only on “anecdotal evidence that, at one time, Plaintiff did lower its
 7 prices, without any control for factors other than Defendants’ infringement that might cause the
 8 price reduction”).

9 Tinwell makes a similar error here. Using a four-film sample, Tinwell identifies a
 10 correlation between “uncanny human-like virtual characters in feature films” and the “estimated
 11 budes and gross film takings” in feature films. Tinwell Decl. ¶ 59. Tinwell then applies this
 12 “causal effect” to *Beauty and the Beast*, concluding that “at least some of the film’s revenue can
 13 be directly attributed to the use of MOVA Contour facial motion capture.” *Id.* ¶¶ 10, 63. Tinwell
 14 mistakes correlation for causation.

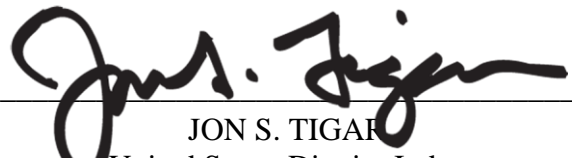
15 Because her study used too small a sample and flawed methodology, and because her
 16 opinion conflates correlation with causation, the Court will strike Tinwell’s opinions that there is a
 17 causal link between a film’s use of MOVA and its profitability as detailed in Exhibit A.

18 CONCLUSION

19 For the foregoing reasons, the Court grants in part and denies in part Defendants’ motion
 20 to exclude Dr. Tinwell’s expert testimony. The Tinwell Declaration shall be stricken as detailed in
 21 Exhibit A.

22 **IT IS SO ORDERED.**

23 Dated: July 12, 2021

24 
 25 JON S. TIGARD
 26 United States District Judge
 27
 28